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HIGHLAND SYRPHIDAE (DIPTERA) OF NORTH CAROLINA.

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Brimley in his "Insects of North Carolina, 1938" lists 172 species of Syrphidae for the State. A collection of 71 species, of which 20 are not included in Brimley's list, was made by the writer in the western mountains of the State at altitudes of 4,000 to 5,000 feet, in late April and early May, 1936.

These higher peaks are southern outposts of the Alleghenian and Canadian life zones. It is therefore not surprising, particularly as the material was collected shortly after the advent of spring, that most of the 20 additional species have been recorded previously only from these life zones.

The two most remarkable distribution records are those of *Epistrophe albipunctatus* Curran, hitherto known only from the Pacific Northwest, and *Psilota thatuna* Shannon, previously known only from Idaho. The new species of *Sphegina* described below, is closely related to *S. infuscatus* Loew, an Alaskan species.

In the following list the species noted without locality record were collected at both Highlands and Bryson City. Also the species not listed by Brimley are marked with an asterisk and their known range of distribution is given.

LIST OF SPECIES.

Subfamily SYRPHINAE.

Melanostoma obscurum Say, 6 Males, 1 Female.

Melanostoma angustatum Will., 1 M., Highlands.

Melanostoma pictipes Bigot (previously recorded as *mellinum* Linn.), 1 M., 3 F.

Platycheirus quadratus Say, 1 M., Highlands.

Syrphus torvus O. S., 2 F.

Syrphus rectus O. S., 5 F.

Syrphus knabi Shn., 3 M.

**Syrphus vitripennis* Meig., 6 M., 3 F. (New York to Canada.)

Metasyrphus wiedemanni Johns. (as *americanus*), 1 M., 1 F., Highlands.

Metasyrphus vinelandi Curran, 1 F., Highlands. (New England.)

Metasyrphus laxus O. S. (as *Didea laxa*), 3 M.

Metasyrphus amalopis O. S., 7 M., Bryson City.

Metasyrphus lapponicus Zett., 1 M., Highlands. (New York to Canada.)

Metasyrphus ochrostomus Zett., 1 F., Highlands. (Canada.)

Epistrophe albipunctatus Curr., 6 M., Highlands. (Idaho, Washington, British Columbia, Alaska.)

The local form apparently differs from the Northwestern one only in having more pronounced yellow and black bands on the abdominal sternites.

Epistrophe cinctellus Zett., 2 M., 2 F., Highlands. (New York, New England.)

Epistrophe fisheri Walton, 1 F., Highlands.

Deidea fuscipes Lw., 15 M., 1 F. (as *D. fasciata fuscipes*).

Chrysotoxum perplexum Johns., 7 M., Highlands. (Maryland to Maine.)

Chrysotoxum pubescens Lw., 2 M.

Sphaerophora cylindrica Say, 1 F.

Mesogramma boscii Macq., 2 M. (as *Toxomerus boscii*).

Subfamily CHILOSINAE.

Pipeza festiva Meig., 1 F.

Heringia salax Lw., 2 M., 1 F.

Psilota thatuna Shn., 2 M. (Idaho.)

Chrysogaster nitida Wd., 1 F.

Cartosyrphus capillatus Lw., 7 M.

Cartosyrphus caltha Shn., 3 M., Highlands.

Ferdinandea nigripes O. S., 7 M., Highlands. (New York, New England.)

Rhingia nasica Say, very common.

Neoscasia distincta Will., 13 M., Highlands.

Sphegina rufiventris Lw., 2 M., 6 F.

Sphegina flavimana Mall., 2 F., Highlands. (Maryland to Maine.)

Sphegina lobata Lw., 1 F., Bryson City.

Sphegina brimleyi, n. sp.

Male.—Front nearly three times as long as broad, black, lightly covered with brownish and grayish pruinosity and with rather conspicuous erect pile; the two basal antennal segments black, third brownish; arista pubescent; upper half of face blackish, lower half yellowish; distance between lower eye margin and the oral margin less than width of third antennal segment.

Mesonotum blackish with brownish pile, inner notopleural depression distinct; fore and mid legs yellowish, the tarsi darkening apically; hind femur yellowish on basal fifth, reddish brown beyond; hind tibia reddish brown, yellowish basally and apically, the apex truncate ventrally; hind tarsi dark.

First two abdominal tergites black, the last two reddish brown; second tergite but little longer than twice its basal width; fourth sternite subquadrate, about one and one-third times as broad as long; posterior margin transverse, thinly clothed with pile and without spinules.

Wings slightly infuscated.

Female.—Width of front about one and two-thirds times its length; distance between lower eye margin and oral margin equal to width of third antennal

segment; basal abdominal segment dark, remaining ones reddish brown; basal width of second tergite one and one-half times the length, the posterior width one and one-fourth times the length. Otherwise similar to the male.

Length: 6 to 6.5 mm.; wing 6 to 6.5 mm.

Type.—A male, U. S. National Museum No. 51912. Allotype and two female paratypes, U. S. N. M. No. 51912; type locality, Highlands, 5,000 feet altitude, North Carolina. One paratype from Bryson City, 5,000 feet altitude, North Carolina.

The present species is closely allied to *S. infuscata* Loew as shown by the fairly conspicuous frontal pile, rather short second abdominal segment, the absence of spinules on the fourth sternite of the male and the straight posterior margin of this sclerite. *S. infuscata* differs from *brimleyi* in having a broader front with even more conspicuous pile; the face entirely black and the fourth sternite nearly twice as long as broad.

Brachyopa flavescens Shn., 1 F., Bryson City. (Virginia to New England.)

Brachyopa perplexa Curr., 2 M., 2 F., Bryson City. (New York to Ontario.)

Brachyopa notata O. S., 11 M., 2 F. (Pennsylvania to Canada, Alaska.)

Myiolepta varipes Lw., 1 M., 3 F., Highlands.

Chatcomyia aerea Lw., 1 M.

Cynorhinella longinasa Shn., 7 M. (New Hampshire). Only a single specimen of this species has been recorded previously, the type specimen, a female (1924). The male has a mere suggestion of a prominence on the posterior part of the femur. The male of the genotype of *Cynorhinella, bella* Williston has a prominent toothlike projection in this position.

Subfamily XYLOTINAE.

Cynorhina nigra Will., 7 M., Bryson City. (New York to New Brunswick and Nova Scotia.)

Cynorhina pictipes Bigot, 1 F., Highlands.

**Cynorhina confusa* Johns, 1 M., Highlands. (New York, New England.)

Cynorhina umbratilis Will., 2 M., Highlands.

Cynorhina badia Wlk. (as *C. intersistens* Wlk.) 1 M., Highlands.

Brachypalpus oarus Wlk. (as *B. frontosus* Lw.), 3 M., 1 F.

Criorhina verbosa Harris, 3 M.

**Criorhina nigriventris* Walton, 2 M., 5 F., Highlands. (Pennsylvania, New England.)

Xylotomina metallica Wied., 1 F., Highlands.

Xylotomina baton Wlk., 1 M., 2 F.

Xylotomina chalybea Wd., 5 F.

Xylotomina pigra Fabr., 2 M.

Xylotomina vecors O. S., 12 M.

**Xylotodes inarmatus* Hunter, 8 M., 1 F., Highlands. (Idaho, Maine, Ontario.)

Xylotodes metallifera Bigot (as *Brachypalpus rileyi* Will.), 1 M., Highlands.

Teuchocnemis lituratus Lw., 5 M.

Syrirta pipiens Linn., 2 M.

Temnostoma balyras Wlk., 2 M., 2 F.

Temnostoma barberi Shn., 1939. 1 M., Highlands. (Previously recorded as *T. babylans* Fabr.)

**Temnostoma venustum* Will., 5 M., Hemlock forests near Bryson City. (New York, New England.)

Temnostoma alternans Lw., 1 F., Bryson City.

Sphecomyia vittata Wd., 3 M., Highlands.

Subfamily SERICOMYNAE.

Sericomyia chrysotoxoides Macq. Very common.

Subfamily ERISTALINAE.

Helophilus fasciatus Walk. (as *H. similis* Macq.), 1 F., Highlands.

Mallota cimbiciformis Fall., 1 M., 1 F.

Mallota posticata Fabr., 4 M., 2 F., Highlands.

Eristalis tenax Linn. By far the commonest species in the region.

Eristalis saxorum Wd., 1 F., Highlands.

Eristalis transversus Wd., 2 M., 4 F.

Eristalis arbustorum Linn., 2 M., 2 F.

TWO NEW HYMENOPTEROUS PARASITES OF SUGARCANE BORERS IN INDIA.

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Recently two new parasites of *Scirpophaga* larvae in sugarcane were submitted for determination by Dr. M. C. Cherian, of the Agricultural Research Institute, Coimbatore, India. They are described here in order to make the names available for use in papers dealing with biological studies involving them. At the same time it seems desirable to correct the generic placement of a described Indian species with which one of the new forms is compared.

Family BETHYLIDAE.

Goniozus fulvicornis (Rohwer), new combination.

Trissomalus fulvicornis Rohwer, U. S. Nat. Mus. Proc. 49 : 233, 1915.

This species, the type series of which was reared from *Cryptophlebia carpophaga* Wlsm. in India, does not possess the venational and propodeal characters that distinguish *Trissomalus*. It unquestionably belongs in *Goniozus*.